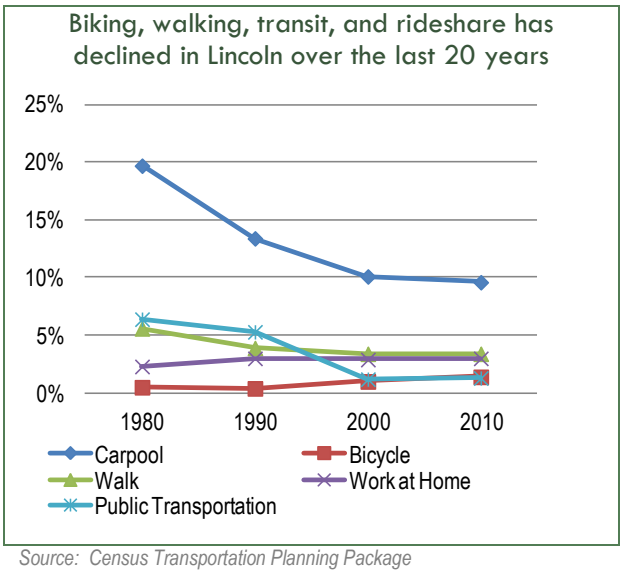
BUSINESS CASE FOR A LINCOLN TRAVEL OPTIONS PROGRAM

WHAT IS A TRAVEL OPTIONS PROGRAM?

Travel Options programs encourage residents, commuters, and visitors to get out of the private automobile for more trips and provide opportunities for them to walk, bike, share rides, and take transit. These programs are coordinated efforts - between the City of Lincoln/MPO, the business community, universities and other institutions, and area nonprofits – that provide education, information, incentives, and other resources to encourage alternatives to driving alone. Partnerships – particularly with the business community – are key to the success of any Travel Options program.

WHY ARE TRAVEL OPTIONS IMPORTANT FOR LINCOLN?

Lincolnites expect to get where they need to go efficiently and affordably. Expanding travel options in the community preserves short commute times, increases active transportation, and keeps money in people's – and the government's – pockets.



Source: Census Transportation Planning Package

While many of Lincoln's peers are experiencing higher rates of walking, bicycling, and transit use, Lincoln has experienced the opposite trend: the number of residents driving alone to work has increased. ***Today, over 80% of Lincoln residents drive alone to work – a rate that has increased steadily over the last twenty years.*** Since 1980, the rate of carpooling has been cut in half, from 20% in 1980 to 10% in 2010, while the use of public transportation decreased from 6.4% to just over 1%. Walking has also declined from 5.6% to 3.4%. The rate of bicycling increased from 0.5% in 1980 to 1.4% in 2010 largely due to the city's extensive trails network. While these rates are fairly typical for small Midwest communities, the City of Lincoln wants to provide more travel options to:

- **Support Economic Development:** Lincoln is home to a strong business community and is well-represented through business organizations. The availability of alternative

travel options, such as biking, walking, and taking transit, is important to retain businesses and workers and to attract new businesses to Lincoln.

- **Maintain Drive Time:** Lincoln has one of the best average commute times in the nation. Short commute times attract both businesses and workers to the region. With the population projected to increase by 15% by 2020 and by 45% by 2040, the Lincoln region will need to increase the number of people biking, walking, taking transit, and sharing rides – particularly in the peak hours – to maintain a short commute.
- **Improve Health:** Creating opportunities for healthy, active transportation is a priority for Lincoln. The community has taken many positive steps in this direction, including the development of an excellent multiuse trail system. Communicating the health benefits of biking, walking, and taking transit is a strong sell for Travel Options programs nationwide.
- **Maintain Quality of Life:** Lincoln is high on the ranks of livable cities; a result of the bicycle network, urban open spaces, and improved pedestrian quality of key corridors. Improving quality of life in Lincoln is particularly important to retain recent college graduates and young professionals.
- **Adapt to Changing Demographics:** The transportation needs of older adults and the millennial generation (those born between 1980 and 2000) will require expanded travel options. The elderly population is increasingly wanting to age in place; millennials are often prioritizing travel options over owning their own car.

TRAVEL OPTIONS: THE BUSINESS CASE

Lincolnites have short commutes, very good options for biking and walking, and a strong downtown business district with a well developed parking supply and management program. So what value does a new Travel Options program provide? The nation's most vibrant and economically successful communities have supported Travel Options programs as a fiscally prudent approach to managing transportation budgets and protecting against the negative externalities associated with growth in automobile traffic.

Can Lincoln afford the cost of <u>not</u> implementing travel options?

Over the last five years, the City of Lincoln has spent an average of over $19 million per year on capital, rehabilitation, operations, and maintenance for the roadway system.[i] With declining transportation revenue and increasing costs, the ability for Lincoln to sustain this level of investment will be a challenge.

A Lincoln Travel Options program can make more efficient use of the existing transportation system by spreading out peak hour traffic and getting more people to take transit, bike, and walk. The proposed Travel Options program would cost $183,920 in year one and $328,002 by year 5. At a fraction of the cost, a Lincoln Travel Options program can reduce between 9,306 and 17,544 vehicle trips per day, or an estimated 93,060 – 175,000 vehicle miles traveled per day (23.6 – 43.8 million vehicle miles traveled per year). See a detailed methodology for this calculation in Attachment A.

In addition, a Travel Options program supports a number of important community objectives outlined below:

TRAVEL OPTIONS SUPPORT CITY POLICY OBJECTIVES

Over the last decade, the Lincoln region has established a number of plans and policies that support a sustainable future with a thriving downtown. Key to the success of this vision is a suite of travel options that help residents, commuters, and visitors to bike, walk, take transit and share rides for more trips.

The Business Case

Expanding the awareness and use of travel options supports numerous City policies, plans, and goals:

- **Lincoln Community Transportation Indicators** track 36 different indicators related to growth, economy, environment, housing, transportation, and recreation. The transportation indicator, for example, sets a benchmark to increase the use of non-auto transportation.
- **LPLAN 2040** identifies downtown as the major office and commercial center and encourages higher density development with parking areas at the rear of buildings or on upper floors of multi-use parking structures.
- The **Long Range Transportation Plan (LRTP)** sets goals for a sustainable, efficient, and accessible transportation system (see sidebar) and a Complete Streets policy.
- The **Lincoln Downtown Plan** envisions a pedestrian friendly downtown with thriving businesses, mixed-use buildings, and a balanced transportation network to improve access to downtown.
- The **City's Congestion Management Process** seeks a "management" solution to increased traffic by targeting resources to provide operational management and travel demand reduction strategies. The goal is to provide an efficient and effective transportation system, increase mobility, and improve safety. Public education and promotion, a Guaranteed Ride Home program, and ridesharing programs are among the strategies identified in the process.
- The **West Haymarket Integrated Development Plan** establishes a vision to connect Haymarket and Downtown and promote a range of transportation choices.
- The **Five Year Strategic Plan 2013 – 2017 for HUD Entitlement Programs** used LPlan 2040 and the *Sustainable Lincoln Plan* to help identify community development needs, develop goals, and identify projects to be implemented using federal funds from the U.S. Department of Housing and Urban Development (HUD).

Travel Options Support LRTP Goals:

Goal 1: Maintain the existing transportation system to maximize the value of these assets.

Goal 2: Improve the efficiency, performance and connectivity of a balanced transportation system.

Goal 3: Promote consistency between land use and transportation plans to enhance mobility and accessibility.

Goal 4: Provide a safe and secure transportation system.

Goal 5: Support economic vitality of the community.

Goal 6: Protect and enhance environmental sustainability, provide opportunities for active lifestyles, and conserve natural and cultural resources.

Goal 7: Maximize the cost effectiveness of transportation.

MAINTAIN SHORT COMMUTES

Lincoln is in the fortunate position of having one of the lowest commute times in the U.S. Short commute times are due in part to the vast majority of residents living and working in Lincoln..[ii] Of the 151,426 employees in Lincoln, 67% of employees (or 101,462) both live and work in Lincoln compared to only 33% of employees who travel in to Lincoln for work. Lincoln also has minimal congestion, except for at a handful of key intersections at peak hours.

Commute time in Lincoln, NE is among the best in the country.
Source: Nelson\Nygaard

As the population grows over the next 30 years, the goal of the Lincoln Travel Options program will be to maintain drive time in light of population growth. **Given the high cost of roadway infrastructure and declining transportation revenues, widening roadways to manage congestion during a short peak period is not a fiscally prudent approach.** Lincoln will have to accommodate the projected increase in population primarily within existing infrastructure. To maintain competitiveness from a congestion standpoint, people will need to bike, walk, use transit, and share rides for more trips. A Travel Options program will expand travel options and awareness.

The Business Case

- **Travel options will help maintain drive time:** In 2009, the mean travel time to work in Lincoln was 17.1 minutes, compared to 25.1 minutes nationally.[iii] Encouraging more people to bike, transit, walk, and share rides will ease up the peak commute times for those who will continue to drive.
- **Reduced traffic means faster drive time:** A small reduction in traffic volumes can cause a proportionally larger reduction in traffic delay. Reduced traffic delay improves drive times in Lincoln.

SUPPORT A HEALTHY ECONOMY

The benefits of walking, biking, and transit access to business districts extend beyond health and improved livability; they have been attributed to increased retail sales and accelerated economic development. Patrons are attracted to visually welcoming places built at a human scale. Investing in transportation options has shown proven success in developing and sustaining local economies.

San Francisco, CA has reordered street space to allow better access for pedestrians and bicycles. This has bolstered small and large retailers along business corridors.
Source: Nelson\Nygaard

The Business Case

- **Travel options are a Green Dividend:** The average American family spends about $9,000 annually on an automobile.[iv] Those that drive less, save more.[v] Money spent on fueling an automobile typically leaves the local economy (to other states or countries), whereas money not spent on gas is often spent locally. Economist Joe Cortright has dubbed this savings a 'Green Dividend'.[vi] ***It is estimated that Lincolnites spend $600,000 on gasoline every day – over $220 million every year.***[vii] If a Travel Options program was able to reduce the vehicle miles traveled in the region by 39.6 million – 52.8 million annually (as estimated on page 2 above), Lincolnites would save between $7 and $9 million gasoline annually. If this money – or even a portion of it – is spent locally, more jobs will be created than if this money were to leave the local economy due to the multiplier effect of local spending.[viii] The multiplier effect of money put into the local economy is estimated to be between 1.5 and 3 times the original amount; **therefore the annual economic benefit to the community due to a Travel Options Program would be between $10 and $13 million annually**.[ix]

- **Walkers and Bikers Spend More Locally:** Overall, people who walk and bike spend more money at local business than those who drive.[x] [xi] [xii] [xiii] People who ride or walk to grocery stores spend less on each trip, but because of more frequent trips they tend to spend more overall. Studies have also shown that walkers and bikers who visit restaurants and bars spend more locally than those who drive.[xiv] For example, studies have concluded that walkers reported spending the most (i.e. walkers comprised the greatest percentage of people spending more than $100 per month), followed by bicyclists, car drivers, and public transit users.[xv]

MAINTAIN GOOD AIR QUALITY

Lincoln has been ranked as one of the cleanest metropolitan areas in the country according to a 2012 report from the American Lung Association.[xvi] A primary goal of a Lincoln Travel Options program would be to maintain the region's healthy air by helping to reduce the number of vehicle miles traveled in the region.

Most of the pollutants predicted to be at high levels in future years are those typically emitted by vehicles. Vehicle-related emissions are also assumed to pose the greatest health risk.[xvii]

Clean air in Lincoln is one of the many factors that contribute to its high quality of life.
Source: flickr user chrisdejabet

The level of mobile source emissions is directly related to the number of vehicle miles traveled in the region. The City of Lincoln estimates that nearly 4.9 million vehicle miles are driven per day, up from 3.1 million in 1992 (an annual growth rate of 2.3% per year). The percent growth in vehicle miles traveled has outpaced the growth in population (1.4% annual growth rate during the same period).[xviii]

The Travel Options program will encourage people to use alternative modes of travel for more trips, decreasing the number of vehicle miles traveled. ***A priority for Lincoln is to protect its air quality as the population and economy grow.***

The Business Case

- **Reduced vehicle miles traveled mean lower mobile source emissions and less greenhouse gases:** If vehicle miles traveled are reduced by 5% in Lincoln, over 162 million pounds of CO_2 will be eliminated daily.[xix]

- **Reduced emissions improve public health:** Mobile source emissions are known to increase the risk of respiratory and other diseases. A study estimated that, on average, 260,000 premature deaths per year are associated with short term exposure to ozone pollution and, among children under age 18, an average of just over 93,000 hospital admissions for respiratory disease and more than 35,000 emergency room visits for asthma.[xx]

MANAGE PARKING & ACCESS

The Lancaster County population is projected to increase 15% by 2020 and 45% by 2040, adding more than 100,000 jobs to the county. As population and jobs increase, particularly in the downtown and at the University, more parking will be needed. New parking is both expensive and induces additional car trips. ***Future solutions should seek to provide access to downtown, the University, and other business districts through a balance of new parking and demand management.***[1] Land not used for parking can be used to stitch the urban fabric back together, providing more space for shops, restaurants, jobs and other amenities that make cities vibrant destinations. ***Investing in transportation options today can help delay or remove the need to build more parking in the future.***[2]

In a view from the Capitol in Lincoln, NE yellow highlights illustrate land currently utilized by surface parking.
Source: flickr.com user karindalziel

The Business Case

- **Public and Private Cost Savings:** Nationwide, the cost of building new parking structures averages $17,533 per space or $52.51 per square foot.[xxi] Surface parking costs between $3,500 and $6,000 per space.[xxii] These capital costs do not reflect the ongoing operations and maintenance costs estimated between $150 and $200 per space per month.[xxiii]
- **Increased Development Potential:** As Lincoln's downtown grows the amount of parking related congestion will increase.[xxiv] Surface parking lots in downtown areas hold great development potential. Reducing excessive parking increases land value and bolsters development.[xxv] [xxvi] Land otherwise given over to parking lots and structures may be profitably developed into vibrant multi-use buildings. When transportation options are available, reduced parking requirements allow for more housing options and increased business development.[xxvii]
- **Land Value Increases:** Surface parking lots undervalue land and bring down development in surrounding areas. For example, in Minneapolis, Minnesota a 2.5 acre surface parking lot pays $1.57 per-square-foot in annual property tax while an adjacent building pays $65.34 per square foot.[xxviii] In Portland, Oregon, free-market parking requirements allowed developers to build no-parking apartments, thereby maximizing land development.[xxix] As demand for downtown and close-in apartments rose, more developers built car-free apartments to provide lower rents and to maximize revenue.[xxx]

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[1] It should be noted that the Central Business District in Lincoln does not require parking. However, developers have seen the need to build parking. One option to explore in the future will be to implement parking maximums in the downtown area to limit the amount of new parking. Parking maximums would need to be supported by a travel options program to ensure downtown access.

[2] The University of Nebraska Master Plan projects a 20% growth in campus population without any net growth in parking spaces. This is an important philosophical shift that recognizes that growth can occur within the existing University parking system if investment in other access strategies (such as biking, walking, and transit) is prioritized.

SUPPORT COMMUNITY HEALTH

In March 2013, Mayor Beutler emphasized the City of Lincoln's commitment to health by participating in the First Lady's *Let's Move!* campaign. ***Providing travel options that support walking, biking, and transit increases community health.*** Walking, biking, and transit are active forms of transportation that help battle obesity, chronic disease, depression and a host of public health concerns.

Fewer people driving promotes a cleaner environment and fewer emissions-related diseases such as asthma. Calmed traffic also creates safer road environments. Safe and healthy travel options impact all people, especially those most vulnerable.

Lancaster County's *Community Health Improvement Plan* includes a vision of people living in communities that support healthy lifestyles, physical activity, and active transportation. The Partnership for a Healthy Lincoln also advocates policies and programs that support this vision.

Finally, the Work Well program sponsored by the Nebraska Safety Council supports over 100 wellness programs at employer sites. These programs have documented marked success. For example, the First State Bank Nebraska Wellness program documented a reduction in overweight or obese employees from 59% to 54% and a remarkable increase in the number of employees engaging in the recommended amounts of physical activity from 57% to 83% in a three-year period.[xxxi]

The Streets Alive! Program – sponsored by Healthy Lincoln – encourages thousands of Lincoln residents to bike and walk every summer.

Source: Partnership for a Healthy Lincoln

The Business Case

- **Increased Exercise:** You don't have to arrive sweaty to work to reap the health benefits of active transportation: even low-intensity exercise garners health benefits. [xxxii] [xxxiii] A 2009 study in Portland, OR found that almost two-thirds of cyclists exceeded the Center for Disease Control and Prevention recommended150 minutes of exercise per week by cycling.[xxxiv]

- **Improved Employee Productivity:** A healthy workforce is a productive workforce. By improving public health, employees will be more productive, happier, miss fewer days, and incur fewer health costs. [xxxv] In 2009, obesity-related absenteeism in the U.S. cost employers an estimated $6.4 billion and the obesity-related loss of productivity was estimated at more than $30 billion per year.[xxxvi]

- **Reduced Health Care Costs:** America's obesity, type 2 diabetes, heart disease, and other chronic diseases add an additional $395 per year to the per-person health care costs.[xxxvii] For those with chronic disease, the costs are significantly higher.[xxxviii] In the Seattle region, a health initiative to get King County employees to exercise regularly has resulted in more than $46 million in savings for the county.[xxxix]

- **Reduced Health Issues:** Reducing the number of vehicle miles traveled reduces the amount of airborne pollutants which have been proven to increase rates of asthma and other repository diseases; these effects are especially devastating for youth.[xl] A State of Washington study found that effects of particulate matter are responsible for an estimated 1,100 premature deaths per year in the state, decreased health for thousands, and a direct and indirect business cost of $190 million per year.[xli]

ENHANCE VALUE OF TRANSIT INVESTMENT

Stakeholder interviews and the Community Travel Preference Survey conducted for this study concluded that people don't know how to ride transit, and don't know that transit can get them where they need to go efficiently. There were several comments about the inefficiency of the transit service (i.e. large buses carrying only a few riders). A Travel Options program would increase people's awareness of transit options and provide incentives and useful information to encourage people to ride the bus for the first time or more often. Travel options programs aimed at getting more riders on existing bus service will increase the value of the City's current annual investment in transit, in addition to realizing many other community-wide benefits outlined below.

A Lincoln Travel Options program can improve the image and efficiency of transit in Lincoln, resulting in more bang for the City's buck.
Source: Nelson\Nygaard

The Business Case

- **More bang for the buck:** Increasing the number of people riding the bus improves cost effectiveness. In 2011, StarTran provided 1.9 million unlinked passenger trips at a cost of $4.04 per ride. If ridership increased 10%, the cost per ride would drop 9% to $3.27 per unlinked trip. Comparatively, peer communities such as Ann Arbor MI, Madison WI, and Fort Collins CO have an average cost per ride of $2.72. Peers also provide double the service hours per capita (peers provide nearly 1.0 service hour per capita compared to Lincoln's 0.50 service hours per capita).[xlii] Increased ridership also increases fare revenues, which can lead to a decrease in City subsidy. This assumes there are no expenses associated with the increase in ridership (i.e. increase in service levels). At this time, however, there is substantial capacity on the existing transit system. Finally, StarTran's federal apportionment (5307 formula funds) is dependent largely on passenger miles. The more passenger miles operated, the more federal money received.

- **Public cost savings:** Transit systems that are well-utilized can help the public sector avoid costly road expansions. A report prepared by the Washington Metropolitan Area Transit Authority estimates that over $6.7 billion in capital costs have been avoided due to the presence of transit in the Washington D.C. region. This cost savings is due to not having to construct an estimated 1,000 additional lane miles. The same report estimates over $65 million avoided in parking construction costs.[xliii] The magnitude of cost savings would clearly be less in a small city such as Lincoln.

- **Resident cost savings:** As noted in the *Support a Healthy Economy* section above, owning and operating a car is costly. The average American family spends about $9,000 annually on an automobile.[xliv] Compared to owning a car, StarTran bus passes range from $96 to $396 annually for commuters.[xlv] A family that is able to get rid of one car will have more than $8,000 to spend on housing, food, or other goods and amenities. This type of spending is more likely to benefit locally owned and operated businesses.

LONG TERM ROADWAY O&M COSTS

Expensive paving and maintenance costs are significantly reduced by fewer automobile trips. Reducing the number of people driving alone will result in less future spending to build and maintain local roads.

Potholes cause damage to motor vehicles and are dangerous to bicyclists. Community members took it upon themselves to warn others in Orlando, FL.
Source: flickr.com user stevendepolo (Attribution license)

The Business Case

- **Extend the Life of Roads:** Without intervention, the vehicle miles traveled in Lincoln are expected to increase 54% by 2030.[xlvi] Reduced automobile VMT significantly reduces the wear and tear on the roads.[xlvii] Reducing cars at peak demand will help reduce the need to build new travel lanes. Cities that have invested in Travel Options programs are now seeing decreases in VMT despite strong economic and population growth.

APPENDIX A: VEHICLE TRIP AND VEHICLE MILES TRAVELED REDUCTION METHODOLOGY

The following table calculates projected mode shift, trip and vehicle trip reduction impacts for the proposed Lincoln Travel Options Program, as described in the draft work plan. The methodology used was as follows:

1. Utilized American Communities Survey mode split and person trip information for the most recent period available (2010) to establish baseline mode shares for commute trips in the Lincoln area. (Columns A and B)
2. Projected mode shift from SOV to HOV, transit, active transportation, and telework. Projections based on experience of similar modeling exercises in medium sized urban areas. For example, carpool shift based on introduction of ride-matching and employer promotion. Transit, bike and walk shift based on additional promotion of these modes through employers and well as specific marketing efforts and information tools to be implemented by Lincoln to support these alternative modes. Telework shift also due to increased employer promotion. (Column C)
3. Projected mode split multiplied by base person trips (total Column A) to establish new person trips (Column D)
4. Average vehicle occupancy used to convert person trips to vehicle trips. 3+ person carpools assumed to have an occupancy of 2.5 to include new vanpools. Transit occupancy estimated at 12 persons per bus trip. (Column E)
5. Vehicle trip reduction based on D x E (Column F)
6. Vehicle trip reduction multiplied by 2 (to get round trips) (Column G)
7. Vehicle trip reduction multiplied by average one-way commute distance (Column H) from ACS (Column I)
8. Annual VMT reduction based on daily reduction x 250 commute days.
9. Percent vehicle trip reduction is obtained by dividing trip reduction (Column F) by total trips (Column A)

Average vehicle trip reduction of 10-15% can be expected at individual worksites where information and incentives are present. Estimated vehicle trip reduction for the recommended Lincoln Travel Options program, of 6.1%, can be viewed as high end of relative impacts, which with a less comprehensive program generating more moderate impacts of perhaps half this amount (3.05%).

Figure 1 Estimated Vehicle Trip and VMT Reduction: Moderate Program (3.05% trip reduction)

Mode	Trips 2006-2010 ACS (A)	Mode Split (Current) (B)	Projected Mode Split (2018) (C)	New Person Trips (D)	Average Vehicle Occupancy (E)	Vehicle Trip Reduction (F)	Vehicle Trip Reduction (round trip) (G)	Average Trip Length (10 miles) (H)	VMT Reduction (I)
Drive Alone	116,404	81.3	77.1	110,900	1.0				
Carpool 2	10,804	7.5	8.5	12,170	2.0	683			
Carpool 3+	2,758	1.9	2.2	3,150	2.5	157			
Transit	1,707	1.2	1.5	2,148	12	37			
Bike	1,938	1.4	2.5	3,579	0	1,641			
Walk	4,508	3.1	4.0	5,727	0	1,249			
Other	935	0.7	0.7	0	0	0			
Telework	4,125	2.9	3.5	5,011	0	886			
Total	143,179	100.0	100.0	~ 143,000		4,653	9,306	10	93, 060

VTR = (D) – (A)/(E) = 4,653 daily round trips

VMTR = VTR x 2 x (H) = 93,060 per day or 23.3 million miles per year

% VTR = (F)/(A) = 3.2%

Figure 2 Estimated Vehicle Trip and VMT Reduction Aggressive Program (6.1% trip reduction)

Mode	Trips 2006-2010 ACS (A)	Mode Split (Current) (B)	Projected Mode Split (2018) (C)	New Person Trips (D)	Average Vehicle Occupancy (E)	Vehicle Trip Reduction (F)	Vehicle Trip Reduction (round trip) (G)	Average Trip Length (10 miles) (H)	VMT Reduction (I)
Drive Alone	116,404	81.3	74.0	105,952	1.0				
Carpool 2	10,804	7.5	10.0	14,328	2.0	1,762			
Carpool 3+	2,758	1.9	2.5	3,579	2.5	328			
Transit	1,707	1.2	1.8	2,577	12	72			
Bike	1,938	1.4	3.0	4,295	0	2,357			
Walk	4,508	3.1	5.0	7,159	0	2,651			
Other	935	0.7	0.7	0	0	0			
Telework	4,125	2.9	4.0	5,727	0	1,602			
Total	143,179	100.0	100.0	~ 143,000		8,772	17,544	10	175, 440

VTR = (D) – (A)/(E) = 8,772 daily round trips

VMTR = VTR x 2 x (H) = 175,440 per day or 43.9 million miles per year

% VTR = (F)/(A) = 6.1%

ENDNOTES

[i] *City of Lincoln/Lancaster County. Transportation Improvement Program, 2013-2016.*
[ii] *US Census Bureau (2010) "2010 U.S. Census Bureau Longitudinal Household-Employer Dynamics Data"*
[iii] *http://www.city-data.com/city/Lincoln-Nebraska.html#ixzz2Lvf0HaYo*

[iv] *USA Today (April 16, 2013) "The cost of owning your car? $9,000 a year." Accessed online: http://www.usatoday.com/story/news/nation/2013/04/16/aaa-car-ownership-costs/2070397/*

[v] *Center for Neighborhood Technology and Surface Transportation Policy Project (2005). Driven to Spend: Pumping Dollars Out of Our Households and Communities. Washington, DC.*

[vi] *Cortright, J. Portland's Green Dividend. CEOs for Cities, 2007. Accessed online: http://www.ceosforcities.org/city-dividends/green/special-reports/portland/*

[vii] *Daily dollars spent on gasoline based on the following: (1) 2011 National Highway Transportation Safety Administration CAFE fleet average: 29.3 miles per gallon; (2) 2011 Nebraska Energy Office average monthly gasoline prices in Lincoln: $3.57 per gallon; (3) 2011 average daily vehicle miles traveled from the City of Lincoln Crash Report: 4,963,000 miles.*

[viii] *Brown, C, M Lahr; and M. Bodnar. The Economic Impacts of Active Transportation in New Jersey, 2013. http://njbikeped.org/wp-content/uploads/2013/05/Economic-Impacts-of-Active-Transportation-in-NJ.pdf.*

[ix] *The US Conference of Mayors estimates local multiplier effects to be 1.5 to 2.0 times original dollars: The US Conference of Mayors (2008), "Dollarwise Best Practice," accessed online: http://usmayors.org/dollarwise/resources/eitc08.pdf; The America Independent Business Alliance estimates the local multiplier effect to be more than 3 times the original dollars: American Independent Business Alliance, "The Multiplier Effect on Local Independent Business Ownership," accessed online: http://www.amiba.net/resources/multiplier-effect*

[x] *Bicycling Brings Business: A Guide for Attracting Bicyclists toNew York's Canal Communities. Erie Canalway National Heritage Corridor, Parks & Trails New York, and New York State Canal Corporation. www.ptny.org/ pdfs/canalway_trail/b3/Bicyclists_bring_business.pdf.*

[xi] *. Clifton ,K., S. Morrissey, and C. Ritter. Mode Choice and Consumer Spending: An Examination of Grocery Store Trips. Presented at 91st Annual Meeting of the Transportation Research Board, Washington, D.C., 2012.*

[xii] *Meisel, D. Bike Corrals: Local Business Impacts, Benefits, and Attitudes. Portland State University School of Urban Studies and Planning, 2010. www.altaplanning.com/App_Content/files/PDX_Bike_Corral_Study_Meisel.pdf.*

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[xv] *The Clean Air Partnership, 2009, "Bike Lanes, On-Street Parking and Business: A study of Bloor Street in Toronto's Annex*

Neighbourhood,"http://www.cleanairpartnership.org/pdf/bike-lanes-parking.pdf

xvi Lincoln One of Cleanest Metros in Nation for Ozone (2012) Accessed online: http://lincoln.ne.gov/city/health/media/2012/050412.htm
[xvii] *Lincoln-Lancaster County Health Department (2010) "Healthy People 2010," pages C-22-C24. Accessed online: http://www.lincoln.ne.gov/city/health/hp2010/HP_LLC.pdf*
[xviii] *City of Lincoln (2011) "City of Lincoln 2011 Crash Study)." Accessed online: http://lincoln.ne.gov/city/pworks/engine/crash/pdf/crash-report.pdf*
[xix] *Assumptions: 8,887 grams of CO2 are emitted per gallon of gasoline (Environmental Protection Agency); average fuel economy is assumed at 30 miles per gallon; 296 grams of CO2 are emitted per mile. If we assume that VMT is reduced in Lincoln by 5% (based on City of Lincoln 2011 estimate of 4.96 daily VMT), we can assume that 73.4 billion grams (or 162 million pounds) are diverted daily.*
[xx] *Bedsworth, Louise Wells, Public Policy Institute of California (March 2010) "Climate Change Challenges: Vehicle Emission and Public Health in California." Accessed online: http://www.ppic.org/content/pubs/report/R_310LBR.pdf*

[xxi] *Cudney, G. "Parking Structure Cost Outlook for 2013." Carl Walker Associates, 2013. Accessed online: http://www.carlwalker.com/wp-content/uploads/2013/04/2nd-Qtr-2013-CWI-Newsletter.pdf*

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